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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/711,587	11/13/2000	Ammar Derraa	MI30-052	8262
21567	7590	12/13/2004	EXAMINER	
WELLS ST. JOHN P.S. 601 W. FIRST AVENUE, SUITE 1300 SPOKANE, WA 99201			ROSE, KIESHA L	
			ART UNIT	PAPER NUMBER
			2822	

DATE MAILED: 12/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/711,587

Applicant(s)

DERRAA, AMMAR

Examiner

Kiesha L. Rose

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 63-84 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 63-84 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

This Office Action is in response to the RCE filed 24 May 2004.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

The application has been amended as follows:

Claims and Specification

Frustrum should be changed to **Frustum** for correct spelling.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the coating over the tip portion and coating not being along the frustum portion must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate

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prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities: the frustum portion is not disclosed in the specification. In addition, the frustum portion is suppose to be free of the coating and the tip is covered by the coating, whereas the specification states that the base (frustum portion) is coating and the tip is free of coating.

Appropriate correction is required.

Claim Objections

Claim 62 is objected to because of the following informalities: Claim 62 is a cancelled claim depending on claim 65, a cancelled claim can not depend of another claim. Appropriate correction is required.

Claims 69 and 78 and 80 are objected to because of the following informalities: Claims 69,78 and 80 are dependent claims, which depend on themselves. A dependent claim can not depend on itself it must depend on another claim. Appropriate correction is required.

Claim 84 is objected to because of the following informalities: Claim 84 is suppose to be still pending in the application but there is no claim 84. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 63,64,72-76 and 77-79, as far as understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Jones (U.S. Patent 5,619,097).

Jones discloses a display structure (Fig. 107) that contains a plurality of silicon-comprising emitter silicon tips (13) with tip sidewalls and that terminate in a pointed apex, at least one of the emitter tips being substantially conical and comprising a tip portion supported by a silicon frustum portion (area where the 13 is), where the tip and

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frustum portion have sidewalls, a coating (8) over the tip portion and not along the frustum portion sidewalls where the coating comprises a first material (diamond, cesium and boron nitride) (Column 9, line 5, column 22, lines 8-9, column 36, line 15) having a lower work function than silicon and second material (19) along the sidewalls of the frustum portion having a different material than the first material.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 65-71 and 80-83, as far as understood, are rejected under 35 U.S.C.

103(a) as being unpatentable over Jones in view of Takemura (U.S. Patent 5,666,020).

Jones discloses all the limitations except for the emitter tip to comprise conductively doped polysilicon. Whereas Takemura discloses an emitter structure (Fig. 3) that contains an emitter (20a/b) that contains an emitter tip (20a) that consist of conductively doped silicon such as polysilicon. The emitter is doped with conductive silicon such as polysilicon to form a higher resistivity in the tip area of the emitter. (Column 7, lines 25-30) Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Jones by incorporating the emitter tip to comprise a conductively doped silicon such as polysilicon to increase the resistance of the emitter as taught by Takemura.

Response to Arguments

Applicant's arguments filed 24 May 2004 have been fully considered but they are not persuasive. Applicant argues that the frustum portion is disclosed by the definition of the word in addition argues that the frustum portion is element 22 (base portion) where the claim disclose that the coating is over the tip and not the frustum portion. If element 22 is suppose to be the frustum portion the base is covered by the coating and the tip is free of the coating. Therefore the claim is the opposite of what the applicant argues.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kiesha L. Rose whose telephone number is 571-272-1844. The examiner can normally be reached on M-F 8:30-6:00 off 2nd Mondays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on 571-272-1852. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

KR
KLR


AMIR ZARABIAN
SUPERVISOR
TECHNOLOGY CENTER 2800